



**EPA REGION 6  
AIR INSPECTION REPORT**

FRS #: 110000504268 Inspection Dates: **October 10-12, 2012**  
AFS #: 48-201-00153  
Type of inspection: Clean Air Act, Partial Compliance Evaluation  
Company Name: **INTERCONTINENTAL TERMINALS COMPANY LLC**  
Facility Name: **INTERCONTINENTAL TERMINALS DEER PARK TERMINAL**  
Physical Location: 1943 Independence Parkway South (also known as Battleground Road)  
Deer Park, Texas 77536  
Mailing Address: P.O. Box 698  
Deer Park, Texas 77536-0698  
County/Parish: **Harris County**  
Reg. Programs: **SIP, Title V, MACT, NESHAP, and NSPS**  
SIC Code: 4226 and 4953

*Sam T. [Signature]*  
3/27/2013

**Facility Representatives:**

Michael J. Gaudet	Environmental Compliance Manager	281-884-0360
Carl Holley	VP, Safety, Health, & Environmental Security & Regulatory Compliance	281-884-0350
Mike Vanegas	Safety Specialist	281-884-0354
Bob Pennacchi, PE	Sr. VP Operations	281-884-0239
Mark Jeansonne	Chief Financial Officer	281-884-0312

**EPA Inspectors:**

Daniel Hoyt	6EN-AS	Env. Engineer	214-665-7326
Cary Secrest	HQ-OECA	Env. Scientist	202-564-8661

Enforcement Officer:

*Daniel Hoyt*

3/21/13

Daniel Hoyt, Environmental Engineer

(Date)

EPA Inspector:

*Daniel Hoyt*

3/21/13

Daniel Hoyt, Environmental Engineer

(Date)

Reviewed By:

*Margaret Osbourne*

3/21/13

Margaret Osbourne, Environmental Scientist

(Date)

## **Executive Summary:**

This inspection report is comprised of four sections:

- **Section I – Introduction** includes the following topics:
  - purpose of the inspection,
  - facility description,
  - maps of the facility and detailed process descriptions (These are referenced in designated ATTACHMENTS.)
- **Section II – Observations**
- **Section III - Areas of Concern.** The issues stated in Section III in this report were identified during the time of this inspection and do not preclude any further enforcement document review, legal review or further enforcement action.

## **Section I - INTRODUCTION**

### **PURPOSE OF THE INSPECTION**

The inspection team, including me, EPA Region 6 inspector Daniel Hoyt, and EPA Office of Enforcement and Compliance Assistance, Air Enforcement Division inspector Cary Secrest, arrived at the Intercontinental Terminals Company LLC, Deer Park Terminal (ITC Deer Park) at 9:50 am on October 10, 2012, for an unannounced inspection. We met with Michael J. Gaudet, the environmental compliance manager. Cary Secrest presented his credentials, and I presented my EPA identification. Cary Secrest informed Mr. Gaudet that this was an EPA inspection to determine compliance with the Clean Air Act (CAA), and that the scope of the inspection, a partial compliance evaluation (PCE), included evaluation of the compliance of the facility with applicable CAA regulations, including Title V operating permit requirements and Texas State Implementation Plan (SIP) regulations. The objective was to systematically evaluate storage tanks, especially internal floating roof (IFR) tanks, and other sources, using an infrared (IR) camera for optical gas imaging and photo-ionization detectors (PID), detecting and identifying emissions sources for further investigation. The inspection was prompted by an analysis of stationary air monitoring data that I conducted, which indicated a significant air emissions source of benzene was located at or near the ITC Deer Park facility.

During the entry meeting, Mr. Gaudet provided us with a tank inventory list (see Attachment 1) and plot plans (see Attachment 2). Cary Secrest informed Mr. Gaudet that if any documents provided during the inspection contain confidential business information (CBI), those documents should be marked as confidential. We watched a safety video and were introduced to Mike Vanegas, who was identified as our primary escort for the field portion of the inspection.

### **FACILITY DESCRIPTION**

The ITC Deer Park facility is a for-hire bulk liquid storage terminal. The site was originally constructed in 1971 and currently consists of 231 large aboveground storage tanks, tank truck and railcar transfer racks, docks and associated control devices (flares and thermal oxidizers). Products stored and transferred at the facility include chemicals, petrochemicals, oils, liquefied petroleum gas (LPG), and petroleum-derived liquid products. Products are transferred into and

out of the tanks via all modes of transportation including tank trucks, railcars, barges, ships and pipelines. A detailed process description and process flow diagrams are included with Attachment 4 (ITC Deer Park CAA Section 114 information request response). The ITC Deer Park facility operates 24 hours per day and currently employs 220 full time employees. Intercontinental Terminals Company LLC is a subsidiary of Mitsui & Co. (USA), Inc. according to the Mitsui website ([www.mitsui.com/us/en/business/1197064\\_3596.html](http://www.mitsui.com/us/en/business/1197064_3596.html)).

## Section II – OBSERVATIONS

Cary Secrest used an optical gas imaging IR camera to survey volatile organic compounds (VOC) emissions sources, primarily tanks, at ITC Deer Park. Cary Secrest conducted IR camera surveys first in high sensitivity mode (HSM) for screening purposes, and then in full automatic mode (auto). Cary Secrest identified for follow up tanks with VOC emissions that were visible using the IR camera in both HSM and auto modes. I used two photo-ionization detectors to detect, verify and evaluate VOC emissions sources. One PID (Tiger) was equipped with a 10.6 eV lamp, and was calibrated with isobutylene. The other PID (Tiger Select) was equipped with a 10.0 eV glass filter that reduces the lamp output to 10.0 eV. The Tiger Select PID can be operated with a pre-filter tube to detect benzene-specific emissions, and was calibrated with benzene.

Video and image files referenced below, a spreadsheet file with all PID data collected during the inspection (ITC PID Master File 10 15 to 10 19 2012), and a summary spreadsheet file (Master Log of Data ITC) are included on a compact disk as Attachment 6. Attachment 7 presents the one photo that was taken during the inspection. An equipment list is included as Attachment 8, which identifies the equipment used by serial number. The PID calibration records, for the most recent calibrations prior to the inspection, as well as the records for the post-inspection calibration checks, are included as Attachment 9.

Cary Secrest and I selected the largest IRF tanks for the PID/IR camera survey. We surveyed 20 tanks on October 10, 2012, 39 tanks on October 11, 2012, and 39 tanks plus two flares on October 12, 2012. The following table lists the tanks that were observed that had IR camera visible emissions in HSM and auto modes, which is an indication of a potential problem with the tanks:

Tank	Date, Time of Observation (Video File Name)	Fixed Roof or IFR Seal Type	Contents (True VOC Vapor Pressure)	Capacity (Barrels)	Year of Construction
60-3	10/10/12, 15:13 (MOV_0424)	Fixed Roof	Fuel Oil Blend Stock (0.2 psi @ 130F)	60,000	1992
80-2	10/10/12, 15:39 (MOV_0426)	Mechanical shoe w/secondary wiper	Ethanol, 190-192.5 Proof (1.48 psi @ 80F)	80,000	1976

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Tank	Date, Time of Observation (Video File Name)	Fixed Roof or IFR Seal Type	Contents (True VOC Vapor Pressure)	Capacity (Barrels)	Year of Construction
80-7	10/10/12, 16:06 (MOV_0431)	Double wiper – vapor mounted	Pyrolysis Gasoline (3.60 psi @ 80F)	80,000	1977
80-9	10/10/12, 16:00 (MOV_430)	Fixed Roof	No. 6 Fuel Oil (0.32 psi @ 130F)	80,000	1977
80-12	10/11/12, 9:44 (MOV_0433) and 9:47 (MOV_0434)	Fixed Roof	No. 6 Fuel Oil (0.21 psi @ 116F)	80,000	1977
80-20	10/10/12, 14:41 (MOV_0423)	Mechanical shoe w/secondary wiper	Pyrolysis Gasoline (5.8 psi @ 80F)	80,000	1979
80-25	10/11/12, 11:21 (MOV_0435) and 11:34 (MOV_0436)	Mechanical shoe w/secondary wiper	Methanol (2.75 psi @ 80F)	80,000	1991
160-1	10/12/12, 14:02 (MOV_0442)	Fixed Roof	Fuel Oil Blend Stock (0.18 psi @ 109F)	160,000	1980
160-2	10/12/12, 14:06 (MOV_0443)	Fixed Roof	Fuel Oil Blend Stock (0.06 psi @ 130F)	160,000	1980
160-3	10/12/12, 14:06 (MOV_0443)	Fixed Roof	Fuel Oil Blend Stock 0.16 psi @ 120F)	160,000	1980

Cary Secrest did not identify any concerns based on the IR camera surveys of the two flares and the tanks not identified in the table above. Attachment 10 is a list of all tanks and other emissions sources that I observed during the IR camera/PID surveys, including inspection observations, tank levels that I recorded after observing tank level gauges, times that I conducted the PID surveys, IR camera video and image file names for the IR camera videos and images that Cary Secrest recorded, and other available information about each observed tank. Attachment 11 is the response from ITC Deer Park after the inspection, received October 29, 2012, which includes VOC vapor pressure analysis results and the records for the most recent external and internal IFR tanks inspections (as applicable), for the above noted tanks.

The only notable PID data that I recorded were PID readings downwind from Tanks 80-7 and 80-9 on October 10, 2012 around 16:03. I recorded 15-second average Tiger PID VOC concentrations up to 0.53 ppm as isobutylene and 15-second Tiger Select PID VOC concentrations up to 0.27 ppm as benzene. An IR camera photo taken by Cary Secrest and included as Attachment 7 shows emissions detected in auto mode coming from a vent on the roof of Tank 80-9.

The IR camera imaging by Cary Secrest of IFR Tanks 80-2, 80-7, 80-20 and 80-25 indicates that the tanks' emissions may not be consistent with the limits or permit application representations of Texas Commission of Environmental Quality (TCEQ) Permit 1078, included as Attachment 12. Mike Venegas of ITC Deer Park confirmed during the inspection that the four tanks were not being filled or drawn down and the tank's floating roofs were not landed or in the process of being landed or refloated during the IR camera imaging by Cary Secrest. The following table summarizes the emissions limitations and permit application representations for the four IFR tanks.

Tanks	VOC Emissions Limit (per tank)	Permit Application Normal Standing Loss Emissions Representations
80-2	162.52 lbs/hr	Up to 31 IFR tanks with capacities of 80,000 to 100,000 barrels in ethanol service, resulting in 3.703 lbs/hr of ethanol emissions, or approximately 0.12 lbs/hr for each tank.
80-7 and 80-20	162.52 lbs/hr	Up to 8 IFR tanks with capacities of 80,000 to 100,000 barrels in pyrolysis gasoline service, resulting in 5.336 lbs/hr of pyrolysis gasoline emissions, or approximately 0.67 lbs/hr for each tank.
80-25	162.52 lbs/hr	Up to 31 IFR tanks with capacities of 80,000 to 100,000 barrels in methanol service, resulting in 5.336 lbs/hr of methanol emissions, or approximately 0.17 lbs/hr for each tank.

The hourly VOC emissions limitations for these tanks, found in the maximum allowable emissions rate table of Permit 1078, are for tank roof landings and/or working loss emissions of any material authorized for storage in the tanks. The above noted Permit 1078 application emissions representations for normal standing losses were included in permit application materials dated June 4, 2007 (see Attachment 13).

The IR camera imaging by Cary Secrest also indicates that the four IFR tanks may not be adequately inspected or maintained under applicable requirements of 30 TAC, Chapter 115 (all four), 40 CFR Part 60, Subparts A and Kb (Tank 80-25), 40 CFR Part 60, Subparts A and Ka (Tank 80-20), 40 CFR Part 60, Subparts A and K (Tanks 80-2 and 80-7), or 40 CFR Part 63, Subparts A and EEEE (all four). Attachment 11 indicates these four tanks all had recent external seal inspections, no more than two months prior to the date this inspection was conducted. The only issues identified during those external seal inspections were for Tank 80-20 (1/2 inch gap along 12 feet of the secondary seal) and Tank 80-7, which had liquid product accumulated "around the gage well from run off while sampling." No internal seal inspection records for Tanks 80-2, 80-7 and 80-20 were provided and the internal seal inspection record for Tank 80-25 indicated the seals were in compliant condition. Internal API tank inspections records were provided for all four tanks, which all occurred no more than three years prior to the date of this inspection, and numerous deficiencies were noted in the API tank inspection reports.

The IR camera imaging by Cary Secrest of fixed roof tank 60-3 indicates that the tank's emissions may not be consistent with the federally enforceable certified emissions representations of permit by rule (PBR) Registration No. 95093. Mike Venegas of ITC Deer Park

confirmed that the tank was not being filled or drawn down during the IR camera imaging by Cary Secrest. PBR registration representations dated February 21, 2011, for PBR Registration No. 95093, indicate breathing loss from this tank is insignificant and the breathing loss emissions representations were not quantified (see Attachment 14). Attachment 11 indicates the contents of this tank, fuel oil blend stock was sampled for true vapor pressure testing, and the results indicate the true VOC vapor pressure, at 130F, was 0.20 psi, less than 0.5 psi, which is the maximum allowed for fixed roof 60,000 barrel tanks without vent controls.

IR camera imaging by Cary Secrest of fixed roof tanks 80-9, 80-12, 160-1, 160-2 and 160-3 indicates that the tanks' emissions may not be consistent with the VOC limits or permit application representations of Permit 1078. Mike Venegas of ITC Deer Park confirmed that the tanks were not being filled or drawn down during the IR camera imaging by Cary Secrest. The hourly VOC emissions limitation for these tanks (162.51 lbs/hr for 80-9 and 80-12, and 232.15 lbs/hr for 160-1, 160-2 and 160-3) in the maximum allowable emissions rate table of Permit 1078 is for tank working loss VOC emissions of any material authorized for storage in the tank. Permit 1078 application VOC emissions representations dated September 29, 2004 for normal breathing losses from 37 fixed roof tanks in No. 6 fuel oil service is 0.468 lbs/hr, or approximately 0.013 lbs/hr per tank (see Attachment 15). The representations indicate the maximum normal No. 6 fuel oil breathing losses is for a storage scenario that includes 12 fixed roof tanks with an 80,000 to 100,000 barrel capacity in service, and no fixed roof tanks with a 160,000 barrel capacity. Attachment 11 indicates that the true VOC vapor pressures for the materials stored in these fixed roof tanks were less than 0.5 psi, which is the maximum allowed without vent controls for fixed roof tanks with an 80,000 or 160,000 barrel capacity.

**Section III - AREAS OF CONCERN**

1. Emissions from internal floating roof (IFR) Tanks 80-2, 80-7, 80-20 and 80-25 at Intercontinental Terminals Company LLC, Deer Park Terminal (ITC Deer Park) may exceed the tanks' volatile organic compounds (VOC) emissions limits or permit application representations of Permit 1078. The tanks are subject to inspection and maintenance requirements under 30 TAC, Chapter 115 (all four), 40 CFR Part 60, Subparts A and Kb (Tank 80-25), 40 CFR Part 60, Subparts A and Ka (Tank 80-20), 40 CFR Part 60, Subparts A and K (Tanks 80-2 and 80-7), and 40 CFR Part 63, Subparts A and EEEE (all four).
2. Emissions from fixed roof Tank 60-3 at ITC Deer Park may exceed the federally enforceable certified VOC emissions representations of Permit By Rule (PBR) Registration No. 95093.
3. Emissions from fixed roof Tanks 80-9, 80-12, 160-1, 160-2 and 160-3 at ITC Deer Park may exceed the VOC limits or permit application representations of Permit 1078.

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**Attachments**

1. Tank Inventory List Provided October 10, 2012
2. Site Plot Plans
3. CAA Section 114 Information Request Dated August 24, 2012
4. ITC Deer Park Response to CAA Section 114 Information Request Dated October 4, 2012 and November 1, 2012
5. Dun & Bradstreet Reports and Texas Secretary of State Corporation Information
6. Compact Disk with Video and Image Files, Spreadsheet File with all PID data collected during the inspection (ITC PID Master File 10 10 to 10 12 2012), and a summary spreadsheet file (Summary Log of Data ITC)
7. Photo Log
8. Equipment List
9. PID Calibration Records
10. ITC Deer Park Inspection Master Log of Data and Inspection Observations
11. ITC Deer Park Response to Information Requested During Inspection Dated October 26, 2012
12. TCEQ Permit 1078, Issued January 30, 2012
13. TCEQ Permit 1078 Application IFR Tank Emissions Representations Dated June 4, 2007
14. PBR Registration Representations Dated February 21, 2011, TCEQ PBR Registration No. 95093
15. TCEQ Permit 1078 Application Fixed Roof Tank Emissions Representations Dated September 29, 2004